

(12) UK Patent Application (19) GB (11) 2 170 993 A

(43) Application published 20 Aug 1986

(21) Application No 8504017

(22) Date of filing 16 Feb 1985

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(51) INT CL.
E05B 65/46

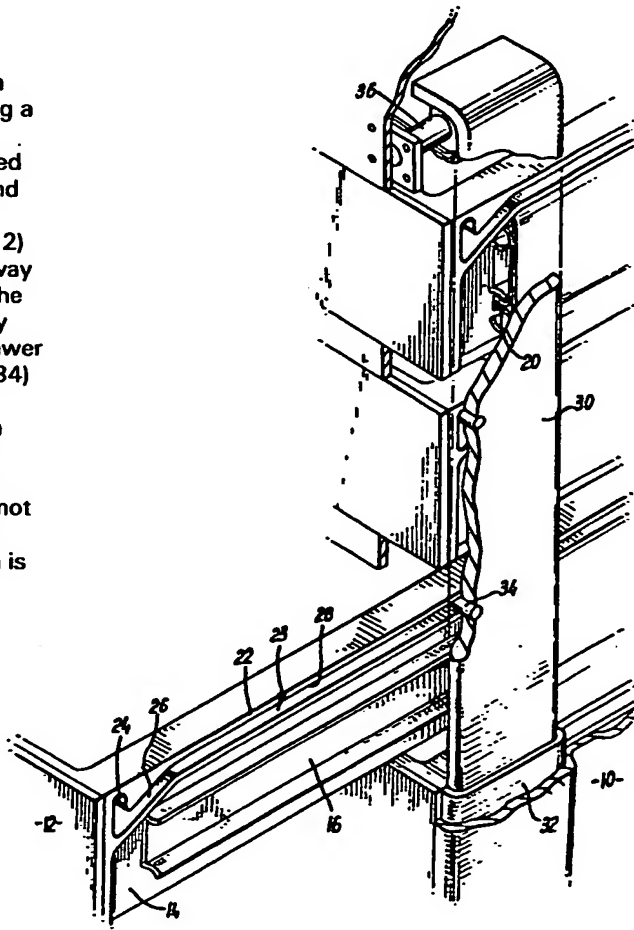
(52) Domestic classification (Edition H):
A4B 15A1 15A2 15A6
E2A 100 106 118 120 160 409 508 510 AMB
U1S 1212 A4B E2A

(56) Documents cited
GB A 2108564 GB A 2063355 US 4239309
GB A 2096229 GB 1471653 US 3870387

(58) Field of search
A4B
E2A
Selected US specifications from IPC sub-classes A47B
E05B

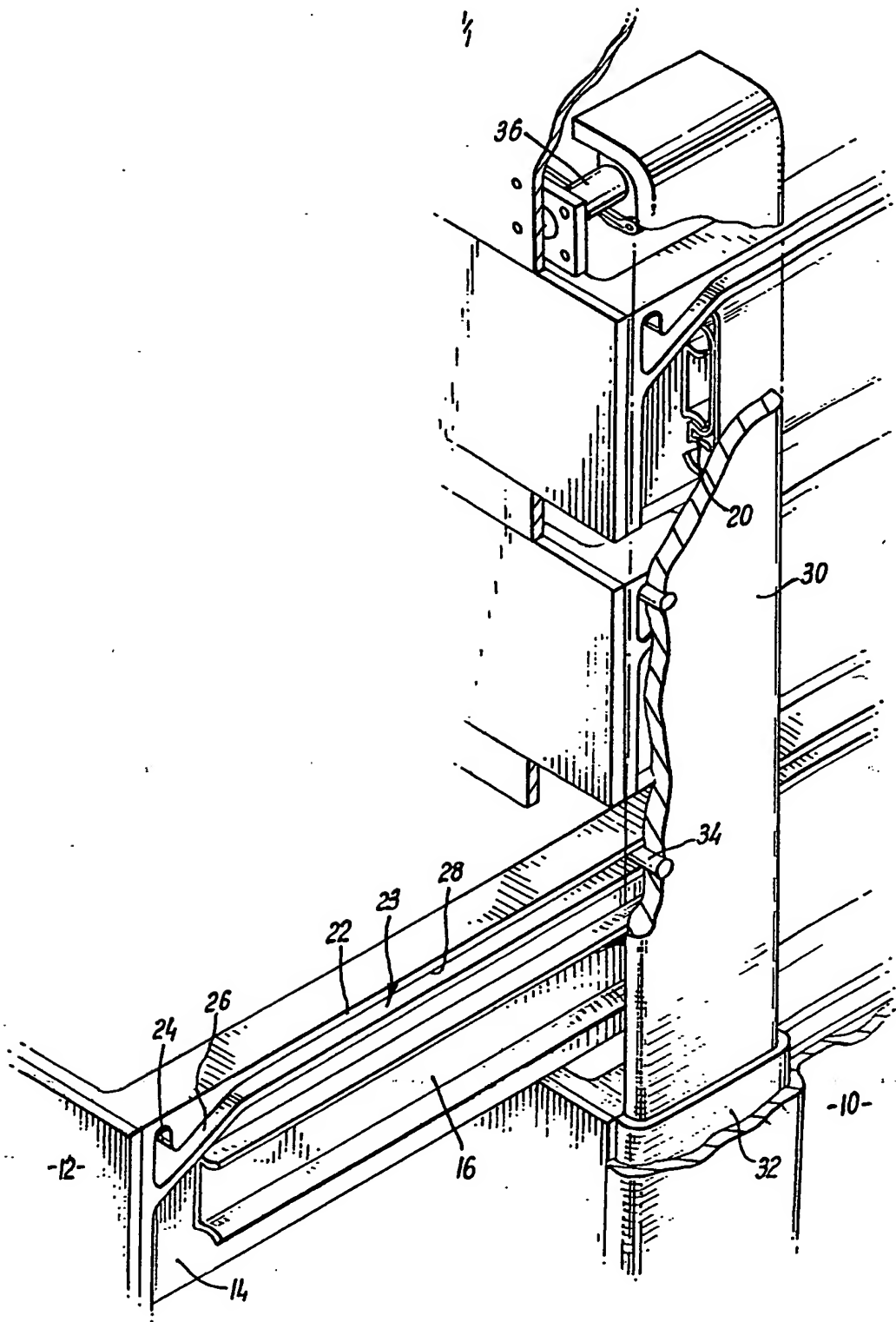
(54) Drawer assembly

(57) A drawer assembly includes a freestanding cabinet (10) mounting a plurality of drawers (12) each of which is movable between a closed position within the cabinet (10) and an open position extending therefrom. Each of the drawers (12) mounts on one side (14) a guideway (22) extending from the front to the back of the drawer. The guideway (22) is so shaped that when a drawer (12) is in an open position a pin (34) engaging in the guideway (22) is raised and raises a bar (30) which raises respective pins (34) in the guideways of any closed drawers such that the closed drawers cannot be subsequently opened until the drawer that is in an open position is closed.



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SPECIFICATION

Improvements in or relating to drawer assemblies

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This invention is concerned with improvements in or relating to drawer assemblies and is particularly concerned with free-standing assemblies with drawers which overhang in an open position.

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A drawer assembly formed of a free-standing cabinet with a plurality of drawers arranged substantially horizontally one above the other and movable to an overhanging position when open, has the problem that, particularly when the drawers are heavily loaded, there is the possibility that if more than one drawer is open at any one time, the combined overhanging weight of the drawers can cause the cabinet to overbalance.

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It is an object of the present invention to obviate or mitigate the difficulties such as outlined above.

According to the present invention there is provided a drawer assembly comprising means housing a plurality of drawers each of which is movable between a closed position within the housing means and an open position extending therefrom, each of at least some of the drawers having a guideway in at least one external face, the guideway being profiled to have a drawer locking section, a cam section and a drawer moving section, locking means being provided to engage in each of at least some of the guideways and being arranged to be movable relative to the housing means whereby, when one drawer is moved to the open position, the locking means in the respective guideway passes into the cam section and subsequently into the drawer moving section, to effect movement of the or each other locking means into the drawer locking section of the respective guideway.

Preferably the locking means comprises a member extending over the height of the stack of drawers and mounting a plurality of projecting members each of which engages in the guideway of a respective drawer, the bar being vertically movable relative to the drawers.

Preferably also the guideway of each drawer has the drawer locking section arranged vertically with a lower end merging into the cam section which is upwardly and rearwardly inclined, the latter merging into the drawer opening section which extends substantially horizontally along at least part of the depth of the drawer.

An embodiment of the present invention will now be described by way of example only with reference to the single figure of the accompanying drawing which is a partial front perspective view of a drawer assembly according to the invention.

Referring to the drawing, a drawer assembly comprises a free-standing cabinet 10 mounting a plurality of drawers 12 which are arranged one above the other and each of which is arranged to be movable substantially horizontally between a closed position within the cabinet 10 as shown by the upper two drawers in the drawing, and an open position extending outwardly from the cabinet 10 as shown by the third top drawer 12 in the drawing.

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Each of the drawers 12 mounts on one side 14 an outwardly facing front to back elongate channel 16 for engagement in a drawer guide 20 to enable movement of the drawer, and a guideway 22 extending from the front to the back of the drawer. The guideway 22 is formed with a channel 23 which has a vertical section 24 at the front of the drawer, the bottom of the section 24 merging into an upwardly and rearwardly inclined cam section 26, with the latter then merging into a horizontal section 28.

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A bar 30 is arranged internally of the cabinet 10 at that side of the drawer assembly which presents the guideways 22. The bar 30 is vertically reciprocable in a sleeve 32 on the cabinet 10 and rigidly mounts a plurality of inwardly projecting pins 34, the latter being so spaced that each can engage in a respective one of the channels 23. At its upper end, the bar 30 co-operates with an adjustment mechanism 36 which can either be arranged to allow free movement of the bar 30, or can lock the bar 30 in an uppermost position for a purpose hereinafter described.

With the bar 30 freely movable and the drawers 12 all closed in the cabinet 10, the bar 30 rests in its lowermost position, with the pins 34 in the lower ends of the respective channel sections 24. During opening of one drawer 12, the respective pin 34 is raised upwardly by the channel cam section 26 to an uppermost position where the pin 34 then moves into the channel section 28. The upward movement of the respective pin 34 effects simultaneous upward movement of the bar 30 and the other pins 34, so that the latter move upwardly in the respective channel sections 24. Further opening of the respective drawer 12 can take place with the respective pin 34 in the channel section 28, but opening of any of the other drawers 12 is prevented because the respective pins 34 are located at the upper ends of the channel section 24.

With such an arrangement it is possible to restrict opening of the drawers to one at any one time and thus avoid overbalancing of the cabinet 10. It will be appreciated that, when the open drawer 12 is closed, the respective pin 34 will eventually enter the cam section 26 of the guideway 22 to be moved downwardly, until the bar 30 with all the respective pins 34 moves to its lowermost position, where any selected drawer 12 can then be

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opened.

Adjustment of the mechanism 36 when the drawers are closed, to move the bar 30 to its uppermost position, will move the pins 34 to their locking positions in the channel sections 24 and thus lock the drawers in the cabinet. It will be appreciated however that the adjustment mechanism 36 need not be provided and any other suitable locking arrangement can be provided for the drawers.

In a preferred modification (not shown) the guideways may each be formed with a channel of a different configuration, which has a vertical section at the front of the drawer, the top of the vertical section merging into a downwardly and rearwardly inclined cam section with the latter then merging into a horizontal section. With this arrangement, the drawers are locked against opening when the bar is in its lowermost position, and this is advantageous when the drawer assembly is used in situations where movement of the assembly might otherwise inadvertently cause opening of the drawers. When opening of a drawer is required, a lever, which is connected to the bar and is accessible externally of the drawer assembly, may be operated to raise the bar and thus the locking pins to the top of the vertical sections of the channels, whereafter the required drawer can be opened. The opening of the drawer causes the respective locking pin to move into the cam section of the channel and thereafter the locking pins with the bar are moved to a lowermost position, where the other drawers are then again locked against opening. With the drawers locked in the normal lowermost position of the bar, it can be advantageous to provide a clamping arrangement, such as a padlock, for the external lever, so as to prevent unauthorised operation of the lever and therefore access to the drawers.

Various modifications may be made without departing from the invention. For example, the locking bar with locking pins may be provided at either side of the drawers or indeed the locking bar with locking pins can be provided at each side of the drawers if desired. Further, not all of the drawers need have guideways with channels, or the locking bar need not have a pin for every one of the drawers. The invention may be applicable to drawer assemblies other than those of the type having horizontally movable drawers located one above the other. For example, the invention may be utilised with a drawer storage assembly as described in our copending Patent Application entitled "Storage Assembly".

Whilst endeavouring in the foregoing Specification to draw attention to those features of the invention believed to be of particular importance it should be understood that the Applicant claims protection in respect of any patentable feature or combination of features hereinbefore referred to whether or not parti-

cular emphasis has been placed thereon.

CLAIMS

1. A drawer assembly comprising means housing a plurality of drawers each of which is movable between a closed position within the housing means and an open position extending therefrom, each of at least some of the drawers having a guideway in at least one external face, the guideway being profiled to have a drawer locking section, a cam section and a drawer moving section, locking means being provided to engage in each of at least some of the guideways and being arranged to be movable relative to the housing means whereby, when one drawer is moved to the open position, the locking means in the respective guideway passes into the cam section and subsequently into the drawer moving section, to effect movement of the or each other locking means into the drawer locking section of the respective guideway.

2. An assembly as according to claim 1, in which the locking means comprises a bar mounting a plurality of projecting members each of which engages in the guideway of a respective drawer, the bar being movable relative to the drawers.

3. An assembly according to claim 1 or 2, in which the guideway of each drawer has the drawer locking section arranged vertically with a lower end merging into the cam section which is upwardly and rearwardly inclined, the latter merging into the drawer opening section which extends substantially horizontally along at least part of the depth of the drawer.

4. An assembly according to claim 3, in which the bar co-operates with an adjustment mechanism which can be arranged to allow free movement of the bar.

5. An assembly according to claim 3 or 4, in which the bar co-operates with an adjustment mechanism which can be arranged to lock the bar in an uppermost position.

6. An assembly according to claim 1 or 2, in which the guideway of each drawer has the drawer locking section arranged vertically with an upper end merging into the cam section which is downwardly and rearwardly inclined, the latter merging into the drawer opening section which extends substantially horizontally along at least part of the depth of the drawer.

7. An assembly according to claim 6, in which is provided a lever which is connected to the bar and is accessible externally of the drawer assembly, the lever being operable to raise the bar whereby a required drawer can be opened.

8. An assembly according to claim 7, in which is provided a clamping arrangement for the external lever.

9. An assembly according to any of the preceding claims, in which locking means are provided at each side of the drawers.

10. An assembly according to any of the

preceding claims in which a guideway is provided at each side of each respective drawer.

11. A drawer assembly substantially as hereinbefore described with reference to the
5 accompanying drawing.

12. Any novel subject matter or combination including novel subject matter herein disclosed, whether or not within the scope of or
10 relating to the same invention as any of the preceding claims.

Printed in the United Kingdom for
Her Majesty's Stationery Office, Dd 8818935, 1986, 4235.
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